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Please find below and/or attached an Office communication concerning this application or proceeding.

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/705,359
Filing Date: November 10, 2003
Appellant(s): BARGNES ET AL.

BARGNES ET AL
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed on 10 September 2009 appealing from the Office action mailed on 12 January 2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

Examiner notes: Examiner thanks Appellant for noting the typographical error in the rejection of claims 23-25 and 27-29, (Appeal Brief, page 4) Baldwin et al., indeed is the correct reference for this rejection.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 4,404,639	McGuire et al.,	9-1983
US 5,317,503	Inoue	5-1994

Baldwin et al., Transfer Pricing for Air Force Depot-Level Reparables, RAND, 1998

Official Notice

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-22, 26 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGuire et al (US 4,404,639) hereinafter "McGuire" in view of Inoue (US 5,317,503) further in view of Baldwin et al., Transfer Pricing for Air Force Depot-Level Reparables, RAND, 1998.

Claim 1:

McGuire as shown discloses the following limitations:

- *creating a vehicle identifier for the vehicle* (Figure 2A, column 4-5, lines 67-68 and 1-22 respectively, which Figure 2A illustrates a flow

diagram when a vehicle arrives to a repair shop, an invoice is created therefore, the vehicle is identified. Furthermore, a new service invoice includes customer and vehicle information);

- *examining the identified vehicle to locate areas on the identified vehicle in need of repair* (Figure 2B, column 6, lines 42-55, which Figure 2B illustrates a flow diagram of diagnosis and repair process, where the vehicle is connected to the analyzer, therefore the vehicle is examined in order to locate areas in need of repair. In addition, "[t]he analyzer will be provided with the necessary linking connections that will permit the analyzer to have all of the necessary condition signals that will permit the analyzer to diagnose the condition of the engine" where for example, the analyzer evaluates the condition of the vehicle engine);
- *estimating an extent of a repair for the identified vehicle based on the examination* (Figure 2A, column 2, lines 63-66, which Figure 2A illustrates a "service estimate" where McGuire provides a "work flow involved in diagnosing and servicing a vehicle from the time a customer arrives for an estimate of charges until the invoice has been completed for that vehicle.");
- *determining a total shop production hours based upon when the repair shop opened and closed for each day between the vehicle production start period and the vehicle production finish period*

(Figure 2C, column 9, lines 41-68 and column 14, lines 9-20, which Figure 2C illustrates a "Daily Recap" which "[t]he daily recap can be performed at any time, although it is assumed that the daily recap will be performed at the end of a working day" (e.g., repair shop closing time) "or at the beginning of the next working day"(e.g., repair shop opening time). McGuire suggests that during a daily recap, the user have information for example total sales, work orders completed (e.g., vehicle production periods) and service history, which it is implicitly disclosed that includes when the repair shop opens and closes each day with all the services and work orders completed because "[t]he system permits the operator to produce a tally of daily operations and work in progress to assist in maintaining an efficient service operation". Furthermore, a daily recap display "work in progress, a monthly summary of work performed" (e.g., total shop production hours), "a service history for individual vehicles or a class of vehicles, a display of present work in progress, and a recap of parts failure history.");

- *inputting an estimate of the extent of the repair* (column 2, lines 63-66 and Figures 2A, 2B and 2C, which it illustrates a "service estimate" where McGuire provides a "work flow involved in diagnosing and servicing a vehicle from the time a customer arrives for an estimate of

charges until the invoice has been completed for that vehicle" by inputting an estimate of the extent of the repair into the computer);

- *and the total shop production hours into the computer* (Figure 2C illustrates a "Daily Recap" which "[t]he daily recap can be performed at any time, although it is assumed that the daily recap will be performed at the end of a working day" (e.g., repair shop closing time) "or at the beginning of the next working day"(e.g., repair shop opening time)) where the total shop production hours are inputted into the computer);

McGuire does not disclose the following limitations however Inoue in an analogous art of calculating repair cost of a damaged car with the purpose of estimating and determining a total labor hours and production time (Figures 2 and 17) as shown does:

- *and estimating a total labor hours to perform the repair process based on the extent of the repair* (Figures 2, 9, 13 and 15-21, which Figure 2, illustrates the estimation process including the repair technical fee which it is implicitly disclosed that labor hours are included in order to charge a technical fee. Figures 9 and 10 illustrates a repair work item selection with operation time included, Figure 13 illustrates total operation time (e.g. estimated total labor hours) in order to perform a repair process, Figure 15 illustrates Operation Time total of technical fee, which a technical fee is

calculated based on estimated total labor hours and labor rate in order to provide a complete repair estimation and Figure 16-21 which they illustrates an example of a written estimate);

- *determining a vehicle production start period based upon when the repair process of the identified vehicle begins* (Figure 17, which it illustrates a "Date of Deposit" which Inoue suggests that the repair process of the identified vehicle begins on the date of deposit because it is implicitly disclosed that the vehicle production start period begins the day the vehicle is ready to be repaired, since an estimate is made when a vehicle needs a reparation);
- *and determining a vehicle production finish period based upon when the repair process of the identified vehicle ends* (Figure 17, which it illustrates a "Date of Delivery" which Inoue suggests that the repair process of the identified vehicle ends on the date of delivery because it is implicitly disclosed that the date of delivery is the deadline to finish all reparation in order to deliver the vehicle to a customer);
- *an estimate of the total labor hours* (Figure 13 illustrates the estimation process inputted into the computer, which shows the repair technical fee where labor hours are included in order to charge the technical fee);
- *the vehicle production start period, the vehicle production finish period* (Figure 17, which it illustrates a print out of the estimate of

repairs which includes the vehicle production start period (e.g., date of deposit) and the vehicle production finish period (e.g., date of delivery) previously inputted into the computer);

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method of Automotive Diagnostic System of McGuire with the apparatus for calculating a repair cost of a damaged car as taught by Inoue because McGuire and Inoue are from the same field of endeavor (vehicle/car repair process). The apparatus for calculating a repair cost of damaged car of Inoue "enables a worker to estimate a repair cost of a damaged car conveniently and accurately." (Inoue, column 1, lines 45-46) Furthermore, Inoue teaches that "the repair cost is obtained from the value of the work item and the part in the section which is selected by the second means. For example, when the value is a work operation time, repair cost is obtained as the results of multiplying a cost per a work operation time by a total of work operation times. When the value is a price, a repair cost is obtained from a total of prices. Thus, a repair cost is estimated with convenience, accuracy and without an error." (Inoue, column 2, lines 35-44).

The combination of McGuire / Inoue teaches the determination of total production hours and the estimated total labor hours as explained above. The combination of McGuire / Inoue does not specifically disclose the following limitations. However Baldwin in an analogous art of calculating repairing cost with the purpose of determining efficiency (Chapter 3, page 17) as shown, does:

- *and utilizing the computer to calculate a production process efficiency for a completed repair process by dividing the estimated total labor hours by the total shop production hours thereby revealing a true percentage efficiency of the repair process by calculating the production process efficiency utilizing hours* (Chapter 3, page 17, which teaches that [t]he DLE for a repair shop is the total standard hours" (e.g., estimated total labor hours) "for all work in the shop divided by the actual hours" (e.g., total shop production hours) "for all work in the shop, that is, an average efficiency");

Therefore, it would have been obvious to try, by one of ordinary skill in the art at the time of the invention was made, to calculate production process efficiency and incorporate it into the system of McGuire and Inoue since there a finite numbers of identified, predictable potential solutions (i.e., process efficiency) to the recognized need (determine efficiency) and one of ordinary skill in the art could have pursued the known potential solutions with a reasonable expectation of success (the labor and production hours are known).

Claim 2:

McGuire as shown discloses the following limitations:

- *wherein the step of determining the total shop production hours is further defined as determining a shop start period equal to the vehicle production start period, and determining a shop finish period equal to the vehicle production finish period* (Figure 2C, column 9, lines 41-68

and column 14, lines 9-20, which Figure 2C illustrates a "Daily Recap" which "[t]he daily recap can be performed at any time, although it is assumed that the daily recap will be performed at the end of a working day" (e.g., shop finish period) "or at the beginning of the next working day"(e.g., shop start period). McGuire suggests that during a daily recap, the operator have information for example total sales, work orders completed (e.g., vehicle production periods) and service history, which it is implicitly disclosed that includes when the repair shop start end finish period each day including all the services and work orders completed (e.g., vehicle production start and finish period) because "[t]he system permits the operator to produce a tally of daily operations and work in progress to assist in maintaining an efficient service operation". Furthermore, a daily recap display "work in progress, a monthly summary of work performed" (e.g., total shop production days in addition to hours), "a service history for individual vehicles or a class of vehicles, a display of present work in progress, and a recap of parts failure history." It is implicitly disclosed that the vehicle production start period is equal to a shop start period and the vehicle finish period is equal to a shop finish period in order to determine productive hours when technicians are performing repairs to a vehicle with the purpose to monitor and measure these productive periods);

Claim 3:

McGuire as shown discloses the following limitations:

- *wherein the step of determining the total shop production hours is further defined as determining a number of days between the shop start period and the shop finish period* (column 9, lines 41-60 and column 14, lines 9-20, which teaches that "[t]he daily recap can be performed at any time, although it is assumed that the daily recap will be performed at the end of a working day" (e.g., shop finish period) "or at the beginning of the next working day"(e.g., shop start period). McGuire suggests that during a daily recap the operator determines the number of days between the shop start and finish period, because "[t]he system permits the operator to produce a tally of daily operations and work in progress to assist in maintaining an efficient service operation". Furthermore, a daily recap display "work in progress, a monthly summary of work performed" (e.g., total shop production days in addition to hours), "a service history for individual vehicles or a class of vehicles, a display of present work in progress, and a recap of parts failure history.");

Furthermore, McGuire teaches that "[b]y requesting the labor update option, the dealer can enter the number of hours assigned to that vehicle and the labor rate from the dealer's labor file will be applied to that work order for later invoicing."

Claim 4:

McGuire as shown discloses the following limitations:

- *wherein if the number of days between the shop start period and the shop finish period is equal to one day, then the step of determining the total shop production hours is further defined calculating a number of hours between the shop start period and the shop finish period* (column 9, lines 41-60 and column 14, lines 9-20, which teaches that "[t]he daily recap can be performed at any time, although it is assumed that the daily recap will be performed at the end of a working day" (e.g., shop finish time period) "or at the beginning of the next working day"(e.g., shop start time period). McGuire suggests that during a daily recap the operator is monitoring the performance of that day because "[t]he system permits the operator to produce a tally of daily operations and work in progress to assist in maintaining an efficient service operation". Furthermore, a daily recap display "work in progress, a monthly summary of work performed" (e.g., total shop production days in addition to hours), "a service history for individual vehicles or a class of vehicles, a display of present work in progress, and a recap of parts failure history.");

McGuire does not explicitly disclosed to calculate one day in hours, therefore, it would have been obvious to try, by one of ordinary skill in the art at the time of the invention was made, to convert one day in hours which is well known in the

art and to incorporate it into the method of McGuire since there are a finite number of identified, predictable potential solutions (e.g., measure production in terms of days in addition to hours) to the recognized need (process production efficiency) and one of ordinary skill in the art could have pursued the known potential solutions with a reasonable expectation of success (a process production efficiency calculated in terms of days or hours).

Claim 5:

McGuire as shown discloses the following limitations:

- *wherein if the number of days between the shop start period and the shop finish period is equal to two days, then the step of determining the total shop production hours is further defined as calculating a number of hours between the shop start period and a shop closing time for a first day to define a first day period and calculating the number of hours between a shop opening time for a second day and the shop finish period to define a second day period, and then adding the hours of the first day period to the hours of the second day period* (column 9, lines 41-62 and column 14, lines 9-20, which teaches that "[t]he daily recap can be performed at any time, although it is assumed that the daily recap will be performed at the end of a working day" (e.g., shop finish time period, shop closing time) "or at the beginning of the next working day"(e.g., shop start time period, shop opening time). McGuire suggests that during a daily recap the

operator determines the number of days between the shop start and finish period, because "[t]he system permits the operator to produce a tally of daily operations and work in progress to assist in maintaining an efficient service operation". Furthermore, a daily recap display "work in progress, a monthly summary of work performed" (e.g., total shop production days in addition to hours), "a service history for individual vehicles or a class of vehicles, a display of present work in progress, and a recap of parts failure history." McGuire suggests that "for those jobs that are incomplete, the original date of the work order will be printed" therefore, a daily recap includes more than one day of production);

McGuire does not explicitly disclosed to calculate one day in hours, therefore, it would have been obvious to try, by one of ordinary skill in the art at the time of the invention was made, to convert one day in hours which is well known in the art and to incorporate it into the method of McGuire since there are a finite number of identified, predictable potential solutions (e.g., measure production in terms of days in addition to hours) to the recognized need (process production efficiency) and one of ordinary skill in the art could have pursued the known potential solutions with a reasonable expectation of success (a process production efficiency calculated in terms of days or hours).

Claim 6:

McGuire as shown discloses the following limitations:

- *wherein if the number of days between the shop start period and the shop finish period is greater than two days, then the step of determining the total shop production hours is further defined as calculating a number of hours between the shop start period and a shop closing time for a first day to define a first day period, calculating the number of hours between a shop opening time for a last day and the shop finish period to define a last day period, and calculating the number of hours between shop opening and closing times for each day between the first and last day periods to define a middle day period, and then adding together the hours of the first day period, the middle day period, and the last day period* (column 9, lines 41-62 and column 14, lines 9-20, which teaches that "[t]he daily recap can be performed at any time, although it is assumed that the daily recap will be performed at the end of a working day" (e.g., shop finish time period, shop closing time) "or at the beginning of the next working day"(e.g., shop start time period, shop opening time). McGuire suggests that during a daily recap the operator determines the number of days between the shop start and finish period, because "[t]he system permits the operator to produce a tally of daily operations and work in progress to assist in maintaining an efficient service operation". Furthermore, a daily recap display "work in progress, a monthly summary of work performed" (e.g., total shop

production days in addition to hours), “a service history for individual vehicles or a class of vehicles, a display of present work in progress, and a recap of parts failure history.” McGuire suggests that "for those jobs that are incomplete, the original date of the work order will be printed” therefore, a daily recap includes more than one day of production);

McGuire does not explicitly disclosed to calculate one day in hours, therefore, it would have been obvious to try, by one of ordinary skill in the art at the time of the invention was made, to convert one day in hours which is well known in the art and to incorporate it into the method of McGuire since there are a finite number of identified, predictable potential solutions (e.g., measure production in terms of days in addition to hours) to the recognized need (process production efficiency) and one of ordinary skill in the art could have pursued the known potential solutions with a reasonable expectation of success (a process production efficiency calculated in terms of days or hours).

Claim 7:

McGuire as shown discloses the following limitations:

- *wherein the step of determining the vehicle production start period is further defined as determining a vehicle production start date and a vehicle production start time based upon a date and time that the repair process of the identified vehicle begins* (column 2, lines 63-66, column 9, lines 41-60 and column 14 lines 9-20, which McGuire

provides a "work flow involved in diagnosing and servicing a vehicle from the time a customer arrives for an estimate of charges until the invoice has been completed for that vehicle" where work orders are created in order to begin the vehicle reparation which McGuire suggests that in each work order, date and time are included when a vehicle reparation process start and finish in order to calculate a labor cost based on each work order. Furthermore, a "daily recap can be performed at any time" where the operator have access to work orders completed information which it is implicitly disclosed that date and time information are included in the service history when a repair process began and when it was finished);

Claim 8:

McGuire as shown discloses the following limitations:

- *wherein the step of determining the vehicle production finish period is further defined as determining a vehicle production finish date and a vehicle production finish time based upon a date and time that the repair process of the identified vehicle ends* (column 2, lines 63-66, column 9, lines 41-60 and column 14 lines 9-20, which McGuire provides a "work flow involved in diagnosing and servicing a vehicle from the time a customer arrives for an estimate of charges until the invoice has been completed for that vehicle" where work orders are created in order to begin the vehicle reparation which McGuire

suggests that in each work order, date and time are included when a vehicle reparation process start and finish in order to calculate a labor cost based on each work order. Furthermore, a "daily recap can be performed at any time" where the operator have access to work orders completed information which it is implicitly disclosed that date and time information are included in the service history when a repair process began and when it was finished);

Claim 9:

McGuire as shown discloses the following limitations:

- *wherein the step of determining the total shop production hours is further defined as determining the total shop production hours based upon when the shop opened and closed for each day between the vehicle production start date and time and the vehicle production finish date and time* (Figure 2C, column 9, lines 41-68 and column 14, lines 9-20, which Figure 2C illustrates a "Daily Recap" which "[t]he daily recap can be performed at any time, although it is assumed that the daily recap will be performed at the end of a working day" (e.g., repair shop closing time) "or at the beginning of the next working day"(e.g., repair shop opening time). McGuire suggests that during a daily recap, the user have information for example total sales, work orders completed (e.g., vehicle production start/finish date and time) and service history, which it is implicitly disclosed that includes when

the repair shop opens and closes each day with all the services and work orders completed (e.g., vehicle production start/finish date and time), because "[t]he system permits the operator to produce a tally of daily operations and work in progress to assist in maintaining an efficient service operation". Furthermore, a daily recap display "work in progress, a monthly summary of work performed" (e.g., total shop production hours), "a service history for individual vehicles or a class of vehicles, a display of present work in progress, and a recap of parts failure history.");

Claim 10:

McGuire as shown discloses the following limitations:

- *wherein the step of determining the total shop production hours is further defined as determining a shop start date and time equal to the vehicle production start date and time, respectively, and determining a shop finish date and time equal to the vehicle production finish date and time, respectively* (Figure 2C, column 9, lines 41-68 and column 14, lines 9-20, which Figure 2C illustrates a "Daily Recap" which "[t]he daily recap can be performed at any time, although it is assumed that the daily recap will be performed at the end of a working day" (e.g., shop finish date and time period) "or at the beginning of the next working day"(e.g., shop start date and time period). McGuire suggests that during a daily recap, the operator have information for

example total sales, work orders completed (e.g., vehicle production start/finish date and time) and service history, which it is implicitly disclosed that includes when the repair shop start and finish period of each day containing time and date of all the services and work orders completed (e.g., vehicle production start/finish date and time) because "[t]he system permits the operator to produce a tally of daily operations and work in progress to assist in maintaining an efficient service operation". Furthermore, a daily recap display "work in progress, a monthly summary of work performed" (e.g., total shop production days in addition to hours), "a service history for individual vehicles or a class of vehicles, a display of present work in progress, and a recap of parts failure history." It is implicitly disclosed that the vehicle production start date and time is equal to a shop start date and time and the vehicle finish date and time is equal to a shop finish date and time in order to determine productive hours when technicians are performing repairs to a vehicle with the purpose to monitor and measure these productive periods);

Claim 11:

McGuire as shown discloses the following limitations:

- *wherein the step of determining the total shop production hours is further defined as determining a number of days between the shop start date and the shop finish date* (column 9, lines 41-60 and column

14, lines 9-20, which teaches that "[t]he daily recap can be performed at any time, although it is assumed that the daily recap will be performed at the end of a working day" (e.g., shop finish period) "or at the beginning of the next working day"(e.g., shop start period). McGuire suggests that during a daily recap the operator determines the number of days between the shop start date and finish date, because "[t]he system permits the operator to produce a tally of daily operations and work in progress to assist in maintaining an efficient service operation". Furthermore, a daily recap display "work in progress, a monthly summary of work performed" (e.g., total shop production days in addition to hours), "a service history for individual vehicles or a class of vehicles, a display of present work in progress, and a recap of parts failure history.");

Furthermore, McGuire teaches that "[b]y requesting the labor update option, the dealer can enter the number of hours assigned to that vehicle and the labor rate from the dealer's labor file will be applied to that work order for later invoicing."

Claim 12

As per **Claim 12**, this claim encompasses substantially the same scope as claim 4. Accordingly, claim 12 is rejected in substantially the same manner as claim 4, as described above.

Claim 13

As per **Claim 13**, this claim encompasses substantially the same scope as claim 5. Accordingly, claim 13 is rejected in substantially the same manner as claim 5, as described above.

Claim 14

As per **Claim 14**, this claim encompasses substantially the same scope as claim 6. Accordingly, claim 14 is rejected in substantially the same manner as claim 6, as described above.

Claim 15:

McGuire as shown discloses the following limitations:

- *wherein the vehicle production start period is further defined as having a vehicle production start date and time, and the vehicle production finish period is further defined as having a vehicle production finish date and time, and further including the step of calculating the days between the vehicle production start date and time and the vehicle production finish date and time to determine a number of days for a total vehicle production* (column 2, lines 63-66column 9, lines 41-60 and column 14, lines 9-20, which McGuire provides a "work flow involved in diagnosing and servicing a vehicle from the time a customer arrives for an estimate of charges until the invoice has been completed for that vehicle" where work orders are created in order to begin the vehicle reparation which McGuire

suggests that in each work order, date and time are included when a vehicle reparation process start and finish in order to calculate a labor cost based on each work order. In addition McGuire teaches that "[t]he daily recap can be performed at any time, although it is assumed that the daily recap will be performed at the end of a working day" (e.g., shop finish period, vehicle production finish period) "or at the beginning of the next working day"(e.g., shop start period, vehicle production start period). McGuire suggests that during a daily recap the operator determines the number of days between the vehicle start date and time period and the vehicle finish date and time period, because "[t]he system permits the operator to produce a tally of daily operations and work in progress to assist in maintaining an efficient service operation". Furthermore, a daily recap display "work in progress, a monthly summary of work performed" (e.g., total shop production days in addition to hours,), "a service history for individual vehicles" (e.g., total vehicle production) "or a class of vehicles, a display of present work in progress, and a recap of parts failure history.");

Claim 16:

The combination of McGuire / Inoue / Edwards teaches the limitations of Claim 1, as explained above. Furthermore, Inoue as shown discloses the following limitations:

- *wherein the step of estimating the total labor hours to perform the repair process is further defined as estimating a total labor hours to be sold to perform the repair process* (Figures 20-21, "Total Operation time", which they illustrates an estimation of total labor hours to be sold in order to perform the repair process);

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method of Automotive Diagnostic System of McGuire and the apparatus for calculating a repair cost of a damaged car as taught by Inoue with the shop effective labor rate of Edwards because McGuire, Inoue and Edwards are from the same field of endeavor (vehicle/car repair process). The apparatus for calculating a repair cost of damaged car of Inoue "enables a worker to estimate a repair cost of a damaged car conveniently and accurately." (Inoue, column 1, lines 45-46) Furthermore, Inoue teaches that "the repair cost is obtained from the value of the work item and the part in the section which is selected by the second means. For example, when the value is a work operation time, repair cost is obtained as the results of multiplying a cost per a work operation time by a total of work operation times. When the value is a price, a repair cost is obtained from a total of prices. Thus, a repair cost is estimated with convenience, accuracy and without an error." (Inoue, column 2, lines 35-44).

Claim 17:

The combination of McGuire / Inoue / Edwards teaches the limitations of Claim 1, as explained above. Furthermore, Inoue as shown discloses the following limitations:

- *wherein the step of estimating the total labor hours to perform the repair process is further defined as estimating a total metal labor hours plus a total paint labor hours* (Figures 20-21, which Figure 20 illustrates an estimation of total metal labor hours (e.g., "Front Fender Sheet Metal") and Figure 21 illustrates an estimation of total paint labor hours "Coating Operation Time" (e.g., "Color mixing… 1 color"));;

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method of Automotive Diagnostic System of McGuire and the apparatus for calculating a repair cost of a damaged car as taught by Inoue with the shop effective labor rate of Edwards because McGuire, Inoue and Edwards are from the same field of endeavor (vehicle/car repair process). The apparatus for calculating a repair cost of damaged car of Inoue "enables a worker to estimate a repair cost of a damaged car conveniently and accurately." (Inoue, column 1, lines 45-46) Furthermore, Inoue teaches that "the repair cost is obtained from the value of the work item and the part in the section which is selected by the second means. For example, when the value is a work operation time, repair cost is obtained as the results of multiplying a cost per a

work operation time by a total of work operation times. When the value is a price, a repair cost is obtained from a total of prices. Thus, a repair cost is estimated with convenience, accuracy and without an error." (Inoue, column 2, lines 35-44).

Claim 18:

McGuire as shown discloses the following limitations:

- *wherein the repair process of the identified vehicle begins when a predetermined event occurs within the repair shop, and wherein the step of determining a vehicle production start period is further defined as determining a vehicle production start period based upon when the predetermined event occurs* (column 2 lines 63-66 and column 9, lines 41-60, which McGuire provides a "work flow involved in diagnosing and servicing a vehicle from the time a customer arrives for an estimate of charges until the invoice has been completed for that vehicle" where work orders are created in order to begin the vehicle reparation (e.g., a predetermined event) which McGuire suggests that in each work order, start and finish period are included in a vehicle reparation process in order to calculate a labor cost based on each work order. It is implicitly disclosed that a vehicle production start when the vehicle arrives to the repair shop after an estimation is made by an operator);

Claim 19:

McGuire as shown discloses the following limitations:

- *wherein the predetermined event is further defined as a technician being assigned to the identified vehicle, and wherein the step of determining a vehicle production start period is further defined as determining a vehicle production start period based upon when the technician is assigned to the identified vehicle* (column 5, line 17, which teaches "Job taken and estimated by" where McGuire suggests that an operator (e.g., a technician) have been assigned to start a job which it is implicitly disclosed that the vehicle start production period initiates when the operator begins to perform the job);

Claim 20:

McGuire as shown discloses the following limitations:

- *wherein the repair process of the identified vehicle ends when a predetermined event occurs within the repair shop, and wherein the step of determining a vehicle production finish period is further defined as determining a vehicle production finish period based upon when the predetermined event occurs* (Figure 2C, column 2 lines 63-66 and column 9, lines 41-60, which Figure 2C illustrates the invoicing in order to release the customer vehicle at the end of day, furthermore McGuire provides a "work flow involved in diagnosing and servicing a vehicle from the time a customer arrives for an estimate of charges until the invoice has been completed for that vehicle" where invoices are created in order to release the vehicle

customer vehicle (e.g., a predetermined event) which McGuire suggests that in each invoice, start and finish period are included in a vehicle reparation process in order to calculate a labor cost based on each work order. It is implicitly disclosed that a vehicle production finish when the vehicle is released to the customer);

Claim 21:

McGuire as shown discloses the following limitations:

- *wherein the predetermined event is further defined as a technician being unassigned to the identified vehicle, and wherein the step of determining a vehicle production finish period is further defined as determining a vehicle production finish period based upon when the technician is unassigned to the identified vehicle* (column 5, line 17, which teaches that in the invoice "Job taken and estimated by" where McGuire suggests that an operator (e.g., a technician) have been unassigned to a job when the technician finished the repair job, which it is implicitly disclosed that the vehicle finish production period ends when the operator complete the job and he/she is available for another repair job);

Claim 22:

The combination of McGuire / Inoue / Edwards teaches the limitations of Claim 1, as explained above. Furthermore, Inoue as shown discloses the following limitations:

- *wherein the steps are repeated for a plurality of identified vehicles each having a separate repair process in the same repair shop* (column 1, line 44 and Figure 2, which it illustrates “Input code number of a car model” where the operator input and identify a vehicle for repairing by selecting: "Select damage type" and "Select section to be repaired". Inoue suggests that a plurality of identified vehicles are repaired in the same repair shop because calculate "a repair cost of a damaged car". It is implicitly disclosed that the apparatus calculate repair cost to more than one car and the apparatus is appropriate to work in a plurality of different repair shops);

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method of Automotive Diagnostic System of McGuire and the apparatus for calculating a repair cost of a damaged car as taught by Inoue with the shop effective labor rate of Edwards because McGuire, Inoue and Edwards are from the same field of endeavor (vehicle/car repair process). The apparatus for calculating a repair cost of damaged car of Inoue “enables a worker to estimate a repair cost of a damaged car conveniently and accurately.” (Inoue, column 1, lines 45-46) Furthermore, Inoue teaches that “the repair cost is obtained from the value of the work item and the part in the section which is selected by the second means. For example, when the value is a work operation time, repair cost is obtained as the results of multiplying a cost per a

work operation time by a total of work operation times. When the value is a price, a repair cost is obtained from a total of prices. Thus, a repair cost is estimated with convenience, accuracy and without an error." (Inoue, column 2, lines 35-44).

Claim 26:

As per **Claim 26**, this claim encompasses substantially the same scope as claim 22. Accordingly, claim 26 is rejected in substantially the same manner as claim 22, as described above.

Claim 30:

The combination of McGuire / Inoue / Edwards teaches the limitations of Claim 1, as explained above. Furthermore, Inoue as shown discloses the following limitations:

- *further including the step of performing the repair process on the identified vehicle* (Figure 2, which it illustrates "Input code number of a car model" where the operator input and identify a vehicle for repairing by selecting: "Select damage type", "Select section to be repaired" and "Select repair work item". Inoue suggests that the repair process is performed on the identified vehicle);

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method of Automotive Diagnostic System of McGuire and the apparatus for calculating a repair cost of a damaged car as taught by Inoue with the shop effective labor rate of Edwards because as explained above in Claim 22.

Claim 31:

McGuire as shown discloses the following limitation:

- *a testing step* (Figure 2B, Diagnosis/Repair, which it illustrates a Motor Analyzer at the initial and final diagnosis);

In addition, Inoue as shown discloses the following limitations:

- *wherein the step of performing the repair process is further defined as performing at least one of a disassembly step, a frame repair step, a metal repair step, a preparation step, a painting step, a reassembly step, and a detailing step* (Figures 9, 10 and 20-21, which Figure 9, illustrates a fender repair work item, Figure 10 illustrates "Select parts to be repaired and parts to be fabricated" (e.g., disassembly and reassembly step), Figure 20 illustrates a "Description of repair technical fee" which include a metal repair step (e.g., "Front Fender Sheet Metal") and Figure 21 illustrates "Coating Technical Fee" which include a painting step);

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method of Automotive Diagnostic System of McGuire and the apparatus for calculating a repair cost of a damaged car as taught by Inoue with the shop effective labor rate of Edwards because as explained above in Claim 22.

Claim 32:

McGuire as shown discloses the following limitation:

- *wherein the step of creating a vehicle identifier is further defined as creating a vehicle identifier based upon at least one of a vehicle brand data, a vehicle year data, a customer identifying data, and a repair order data* (Figure 1, which it illustrates “Vehicle Data” and "Vehicle Data and Information” and column 5 lines 1-55, which McGuire teaches that when a work order is created, it includes the repair order data, the “Customer Name”, "Address", "Make, year and model" of the vehicle);

3. Claims 23-25 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of McGuire / Inoue / Baldwin in view of **Official Notice**.

The combination of McGuire / Inoue / Baldwin teaches the limitations of Claims 22 and 26, as explained above.

Claim 23:

- *further including the step of calculating an average of the estimated total labor hours for the plurality of identified vehicles in the same repair shop*

Claim 24:

- *further including the step of calculating an average of the total shop production hours for the plurality of identified vehicles in the same repair shop.*

Claim 25:

- *further including the step of calculating an average of the production process efficiency for the repair processes by dividing the average total shop production hours by the average estimated total labor hours.*

Claim 27:

- *further including the step of calculating an average of the estimated total labor hours for the plurality of identified vehicles in the plurality of different repair shops.*

Claim 28:

- *further including the step of calculating an average of the total shop production hours for the plurality of identified vehicles in the plurality of different repair shops.*

Claim 29:

- *further including the step of calculating an average of the production process efficiency for the repair processes by dividing the average total shop production hours by the average estimated total labor hours.*

With regard to the limitations *calculating an average of the estimated total labor hours, total shop production and production process efficiency*, the Examiner takes **Official Notice** that it is old and well known in statistics and arithmetic and to one of the ordinary skill in the art to calculate average in order to measure and

monitor the performance of a process (e.g., a process behavior). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine McGuire / Inoue / Baldwin with the old and well-known practice of average calculation because the average calculation measure and monitor the performance of a process. By calculating the average of a process, it shows how data is distributed, therefore the average value is useful to compare it against business standard averages for the same procedure at other facilities (e.g., benchmarking) in order to analyze how well the current process is executed.

(10) Response to Argument

In the Appeal Brief, Appellant presents the following arguments:

1) There is no disclosure or teaching of determining a total shop production hours based on when a shop opens and closes. Therefore, because the total shop production hours is not determined, the production process efficiency, as defined, is likewise not calculated because one component of the calculation requires the total shop production hours.

2) That the Examiner misinterpreted Edwards and withdrew the rejection on the Office Action mailed on January 12, 2009.

3) Appellant argues, specifically that the prior art of record, that Baldwin et al., does no mention or teach determining the total shop production hours based on when the repair shop opens and closes. As such, it is

impossible for Baldwin et al. to provide any disclosure or teaching of calculating the efficiency as defined in claim 1 as this efficiency calculation requires the total shop production hours based on when the repair shop opens and closes. Accordingly, the process of Baldwin et al. will not measure the particular production process efficiency that the claimed invention is designed to produce.

In response to argument 1, Examiner respectfully disagrees. McGuire does teach *determining a total shop production hours based upon when the repair shop opened and closed for each day between the vehicle production start period and the vehicle production finish period* in Figure 2C, column 9, lines 41-68 and column 14, lines 9-20, which Figure 2C illustrates a "Daily Recap" which "[t]he daily recap can be performed at any time, although it is assumed that the daily recap will be performed at the end of a working day" (e.g., repair shop closing time) "or at the beginning of the next working day"(e.g., repair shop opening time). McGuire suggests that during a daily recap, the user have information for example total sales, work orders completed (e.g., vehicle production periods) and service history, which it is implicitly disclosed that includes when the repair shop opens and closes each day with all the services and work orders completed because "[t]he system permits the operator to produce a tally of daily operations and work in progress to assist in maintaining an efficient service operation". Furthermore, a daily recap display "work in progress, a monthly summary of work performed" (e.g., total shop production

hours), "a service history for individual vehicles or a class of vehicles, a display of present work in progress, and a recap of parts failure history." Therefore, McGuire does teach that a total shop production hours is determined based on when the repair shop open and close.

In response to argument 2, Examiner respectfully disagrees. The reference of Edward was not misinterpreted; it was withdrawn because independent claim 1 was amended.

In response to argument 3, Examiner respectfully disagrees. In response to appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The combination of McGuire in view of Inoue teaches the determination of total production hours and the estimated total labor hours as explained above in argument 1. The combination of McGuire / Inoue does not specifically disclose the following limitations. However Baldwin in an analogous art of calculating repairing cost with the purpose of determining efficiency (Chapter 3, page 17) as shown, does:

- *and utilizing the computer to calculate a production process efficiency for a completed repair process by dividing the estimated total labor hours by the total shop production hours thereby revealing a true*

percentage efficiency of the repair process by calculating the production process efficiency utilizing hours (Chapter 3, page 17, which teaches that [t]he DLE for a repair shop is the total standard hours" (e.g., estimated total labor hours) "for all work in the shop divided by the actual hours" (e.g., total shop production hours) "for all work in the shop, that is, an average efficiency");

Therefore, it would have been obvious to try, by one of ordinary skill in the art at the time of the invention was made, to calculate production process efficiency and incorporate it into the system of McGuire and Inoue since there a finite numbers of identified, predictable potential solutions (i.e., process efficiency) to the recognized need (determine efficiency) and one of ordinary skill in the art could have pursued the known potential solutions with a reasonable expectation of success (the labor and production hours are known).

The hours of the shop are equivalent to the actual hours for all work in the shop because the work performed in the shop would be done during the repair shop's open hours.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Nadja Chong/

Examiner, Art Unit 3623

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/Beth V. Boswell/

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